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Big Cats

A magazine by IBCA on wildlife conservation

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Exclusive

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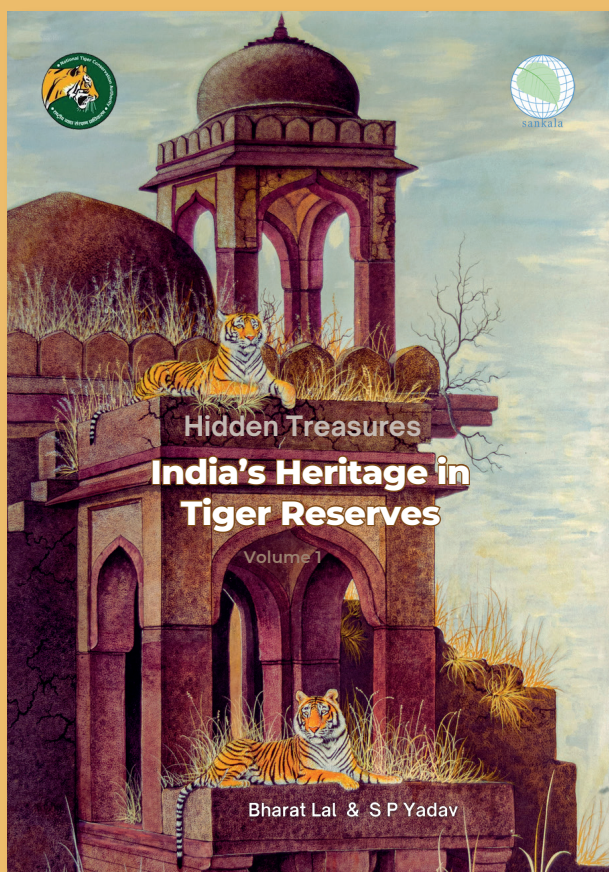
In Clear &
**Present
Danger**





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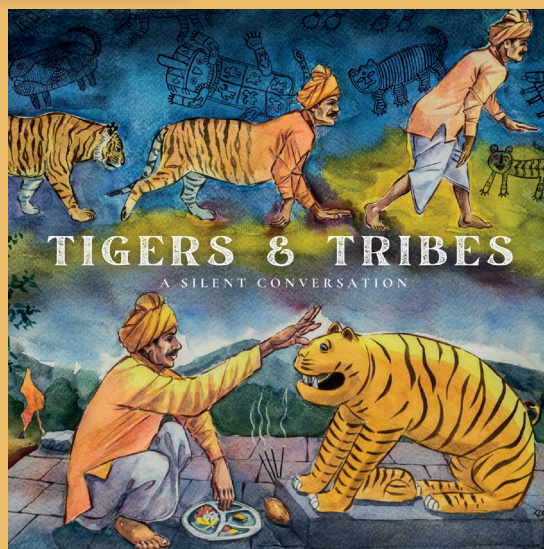


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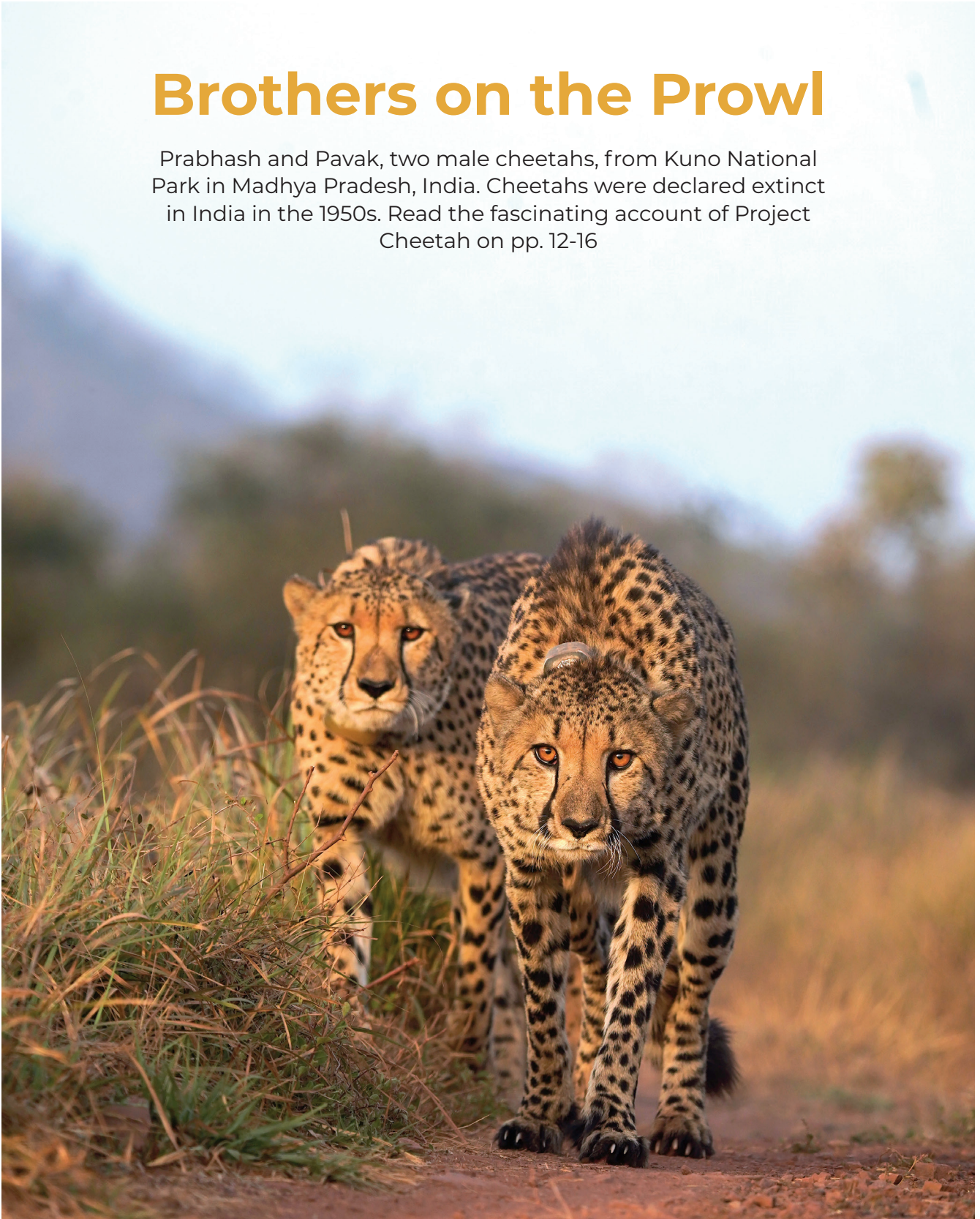


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Brothers on the Prowl

Prabhash and Pavak, two male cheetahs, from Kuno National Park in Madhya Pradesh, India. Cheetahs were declared extinct in India in the 1950s. Read the fascinating account of Project Cheetah on pp. 12-16



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Our Contributors for this Issue



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Bhupender Yadav is the Minister of Environment, Forest and Climate Change (MoEFCC), Republic of India and president of the International Big Cat Alliance (IBCA). He also serves as chairman of the National Tiger Conservation Authority, a statutory body with an overarching supervisory role for tiger conservation in India. He has authored several books, including co-authoring 'Supreme Court on Forest Conservation' in 2005. He is a Member of the Indian Parliament, Lok Sabha (lower house), from Alwar, Rajasthan.



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Dr Fernando Rodrigo Tortosa
Fernando is the Conservation Programme Coordinator for wildlife NGO Panthera in Brazil. He is a biologist with a PhD in Ecology and Biodiversity Conservation from the Federal University of Mato Grosso. He has been conducting research in the Pantanal for more than 20 years, mainly on jaguar ecology and conservation, focussing on ecotourism and human-wildlife coexistence. He has coordinated projects aimed at jaguar and small cat conservation in Brazil, as well as projects to strengthen protected areas in the Pantanal and projects that promote a participatory agenda for preventing and fighting wildfires in the Pantanal.

Unsung Heroes



Aasha, Gamini, Prabhash and Pavak live in Kuno National Park, the site of India's Project Cheetah. These cheetahs are originally from South Africa and

Namibia. In 2022, the India government began the transcontinental translocation of cheetahs in an attempt to revive the lost species. Three years later, Aasha's cubs became the first India-born cubs to be released in the wild.

Asha, which means hope in Hindi language, was named so by the Indian Prime Minister Narendra Modi, a passionate promotor of wildlife conservation. The release of Aasha's cubs in the wild is a milestone not only for experts involved in Project Cheetah but also for world conservationists studying the impact of transcontinental translocations. While the project has faced tremendous challenges and sometimes received

brickbats, the release of the first cubs along with their mother in the wild is an example of the quiet resilience of conversationists. It also demonstrates the prowess of veterinarians, often engaged in life-and-death situations for the cheetahs. They are the unsung heroes.

In this issue, India's Environment, Forest and Climate Change Minister Bhupender Yadav pays a special tribute to the Indian veterinarians. Their pivotal role in safeguarding the cheetahs and in providing timely medical assistance has saved multiple lives.

Wildlife conservation has become more challenging with the persistent threat of climate change and human interventions. This issue focusses on the dangers Brazilian jaguars face from wildfires, roadkills and loss of habitat. Stories from Sri Lanka, Iran and Kenya highlight how governments and experts are trying to reverse the damage to big cats.

A photo feature on a community-led wildlife sanctuary in Kenya promises great potential for coexistence. Today, such sanctuaries may appear as islands of protection, but eventually serve as beacons for the road ahead in wildlife conservation. 🐾

MALVIKA KAUL



Dr Andrew Kittle

Andrew is a zoologist and co-founder of the Wilderness & Wildlife Conservation Trust. He has conducted studies across the Sri Lankan island on distribution and behaviour of this apex predator. In addition to conducting research on the Sri Lankan leopard Andrew has studied the behaviour and spatial ecology of large carnivores across systems and continents, including wolves in North America and lions and hyenas in Eastern Africa. Andrew's peer-reviewed research has been widely published internationally.



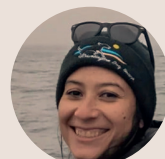
Cherie Schroff

Cherie is the Founder and Principal Investigator of the Tsavo Cheetah Project. She is a National Geographic Society Explorer since 2019 and member of IUCN SSC Kenya Species Specialist Group. Cherie has been working in cheetah conservation since 2002 and holds degrees in Animal Science and Animal Ecology. Her main interests are cheetah conflict investigation, cheetah movement / dispersal patterns and connectivity. She works with the Kenya Wildlife Service and Felidae Conservation Fund.



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Zara is the President of Felidae Conservation Fund. With graduate degrees in science and business from UC Berkeley she is an independent biologist consultant and entrepreneur led multiple startup ventures in technology, biotechnology, healthcare and private equity. Zara has worked throughout the world tracking and researching wild cats since 2005. She has used collars, camera traps, scat and hair collection to study wild felids since 2007. She is also an ultra-runner and a private pilot.



Dr Alys Granados

Alys is a wildlife ecologist with Felidae Conservation Fund. She has a PhD in Zoology from the University of British Columbia and a MSc in Biology from Concordia University. Alys has used camera traps to study wildlife since 2013 and has been part of projects in multiple countries, including Malaysia, Indonesia, Canada, Cameroon, Chile, Costa Rica, and El Salvador. Besides pumas, she has studied a range of species including elephants, bearded pigs, beavers, orangutans, as well as plants.



Georgina Goodwin

Georgina is a documentary photographer with a focus on environment and social issues. Named by NY Weekly Magazine as one of 2025's "Influencers To Look Out For", Georgina is known for her award-winning work on Kenya's post-election violence, cancer in Kenya, and refugees in Africa. Her work has been published by NY Times, Elle, Vogue and many others, and exhibited around the world. Now as a mother she also mentors African storytellers through her agency GGImages Media.

Female jaguar and her cubs at the riverbanks of the Cuiabá River, Porto Jofre, Northern Pantanal

Photo: Sebastian Kennerknecht

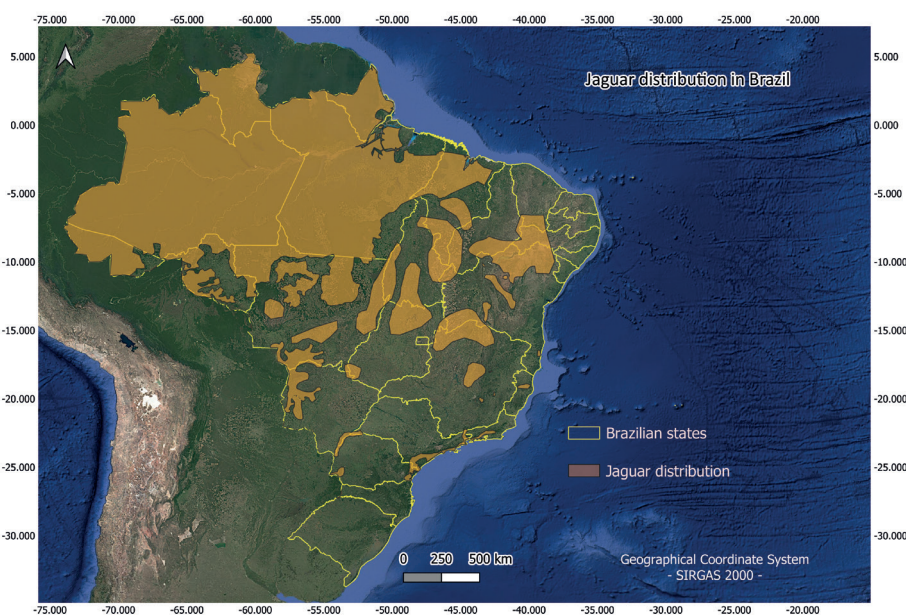


Jaguar in Brazil

In Clear and Present Danger

Habitat loss, poaching, roadkills and recently wildfires have destroyed almost half of Brazil's jaguar population. Besides taking stringent measures, the government seeks support of indigenous people, for whom the jaguar is a divine being

TEXT BY RONALDO GONÇALVES MORATO & FERNANDO RODRIGO TORTATO



Map of the jaguar distribution in Brazil. Source: ICMBio, 2025. <https://salve.icmbio.gov.br/>. Acesso em: 10 de Jan. de 2025

forest was burnt in 2021, 2% in 2022, 6% in 2023 and 17% in 2024.

This scenario has resulted in the species' extinction in the Pampa biome, and nowadays, the jaguar is critically endangered in the Atlantic Rainforest and Caatinga and endangered in the Cerrado. Even in the Amazon and Pantanal, the biomes that harbour the first and second largest jaguar populations, respectively, the species is facing risks and is listed as vulnerable.

Continuous habitat loss and fragmentation is largely due to land transformation – for agricultural activities and urbanisation. It is estimated that over 93 million hectares are covered by agricultural activities, including soy cultivation and cattle ranching, while urban areas cover nearly 4.5 million hectares in Brazil.

Deforestation Up Again

Since 2004, Brazil's government implemented the Action Plan for the Prevention and Control of Deforestation and from 2004 to 2012 deforestation was reduced by 83%. However, between 2016 to 2022 deforestation rates increased again. The fifth phase of the action plan

(2023-2027) aims to reverse this rising trend, and in 2024, it resulted in the lowest deforestation rate in the last nine years. The Native Vegetation Protection Law, known as the Forest Code (Law 12,651/2012), is the main policy for the conservation of native vegetation in private areas and has been in force since 2012.

Two major instruments contribute to the conservation of the native vegetation in private lands: a) Permanent Preservation Areas and, b) Legal Forest Reserves. The law also considers the restoration and/or compensation of deforested areas, incentives and economic instruments, forest exploitation regulation and agroforestry systems promotion. In addition, it establishes mechanisms for monitoring and environmental management of rural properties.

It is important to highlight that land transformation also opens opportunities for poachers and illegal traders. Additionally, it increases human-wildlife conflict and, consequently, retaliatory killings, which can accelerate population decline. In fact, studies show that jaguar mortality increases in newly opened areas, likely due to easier access.

Human-wildlife interaction can further increase in areas of land transformation,

Brazil hosts nearly 50% of the total jaguar population in the world. But close to 43% of the total jaguar population in Brazil has already been extirpated, and most of the loss has been in the last 20 years. Besides habitat loss, poaching, illegal trade, retaliatory killings and roadkills, recently wildfires have threatened the species.

Since 2020, 45% of the total jaguar population in the Pantanal, world's largest tropical wetland spread across Brazil, Bolivia and Paraguay, has been affected by wildfires. Increasing deforestation rates and wildfires (between 2016 and 2019) displaced, injured, or killed thousands of jaguars in the Amazon too. Close to 12%

Bird's eye view of
a wildfire burning
through the forest

Photo: Fernando Tortato



specifically those converted for cattle ranching. Close contact with livestock may result in depredation, causing economic losses for landowners. In response, some landowners can pursue and kill the jaguar. Reports of carcass poisoning are also common and may result in the deaths of many jaguars and other carnivorous or scavenger species.

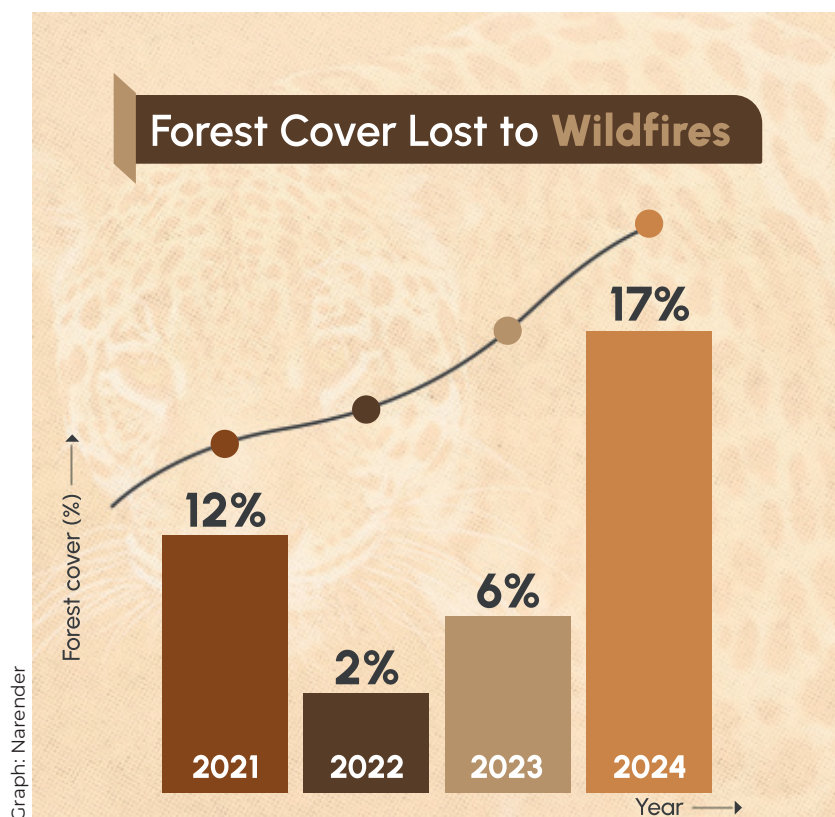
Since the beginning of the century, the Brazilian government and partners have conducted activities aimed at fostering harmonious coexistence between humans and predators, with special attention to jaguars and pumas. These activities include: a) research as a tool to

Increased severity and frequency of wildfires now pose a real threat to the long-term survival of the species

understand the causes and dynamics of conflicts to better inform management strategies; b) community engagement, which aims to raise awareness about conservation and the value of predator species; and c) mitigation strategies such as establishing barriers (for example, electric fences), use of guardian dogs, or providing

technical support to prevent livestock predation.

In addition, government agencies and NGOs are adopting different economic mechanisms to alleviate the losses and discouraging retaliation, including payment of ecosystem services, carbon and biodiversity credits, tourism and beef



" The future of the jaguar depends on indigenous lands, which, in combination with protected areas, can ensure its long-term survival "

certification. For instance, jaguar-watching tourism has been reported to have a positive impact on the local communities' economy and to improve tolerance and attitudes towards jaguars. It is estimated that 70,000 tourists have visited the Northern Pantanal in the Porto Jofre region to experience jaguar sightings.

Roadkill is another form of human-wildlife interaction that often results in injury or death for the animals involved. Unfortunately, in some cases, there are also injuries or fatalities among humans. As areas are opened for human activities, roads are built and paved, increasing traffic and the likelihood of wildlife roadkill. Despite the lack of studies quantifying the rate of jaguar roadkill across the country,

reports are becoming more frequent, and some roads are reported to be very dangerous for jaguars, such as the BR-262 in the section that crosses the Pantanal in the Mato Grosso do Sul State, where approximately 20 jaguars have been killed in the last seven years. Roadkill can also serve as an additional source of local extinction for the jaguar, particularly in the remnants of the Atlantic Forest, where populations are isolated and have a low number of individuals.

The construction of wildlife passages is the main alternative for reducing the risk of collisions. For the jaguar, identifying hotspots for road crossings may help reduce the costs of implementing the passages and decrease the number of

collisions. There are reports of jaguars using underpasses, demonstrating that this measure can be an important tool for decreasing the risk of jaguar deaths by collisions.

Havoc of Wildfires

Until recently, wildfires were not considered a threat to the jaguar. However, the increased severity and frequency of wildfires now pose a real threat to the long-term survival of the species. In the Pantanal, the wildfires of 2020 reached 40,000 km², with fire outbreaks 400% greater than the median registered between 1998 and 2019. The extent and severity of the fires killed nearly 17 million vertebrate species. Some injured jaguars were rescued and received medical assistance. Unfortunately, due to the severity of their injuries, some individuals died while others were unable to return to the wild. Few individuals were able to return to the wild and radiotracking allowed to follow their readaptation. In addition, it has been estimated that 2020's wildfires affected 45% of the total jaguar population in the Pantanal.

Wildfires are predicted to be more frequent with climate and land use change, and if events analogous to Pantanal-2020 become recurrent, they might affect the long-term survival of the species in the region. At the local level, a continuous fire monitoring system has been implemented using satellites and cameras installed on towers, with firefighter brigades strategically located in the region for continuous operation. Additionally, education programmes focus on the proper use of fire for management purposes was implemented, enforcement of fire-use policies has been established, and the construction of two rescue and rehabilitation centres were concluded. At National level the establishment of National Integrated Fire Management Policy (Law 14944/2024) seeking to establish guidelines and actions for the controlled and sustainable use of fire has been initiated.

Indigenous People Give Hope

For the Tupinambás, an indigenous people of Brazil, the jaguar is a divinity, the most perfect being, and the creator element of the world responsible for destruction and reconstruction throughout the ages.

Photo: Giovane Pesa/ Artery Productions



The apocalypse would occur when Sumé, an ancestral indigenous figure, transformed into the great blue jaguar, the celestial jaguar, devouring the moon and extinguishing the light of the night.

This narrative highlights themes of transformation and cosmic significance, often found in various indigenous beliefs across Brazil. But, the Tupinambá people are threatened by violence related to the delimitation and recognition of their land.

Similarly, the Puruborá—the people who transform into jaguars—is an indigenous group from the Amazon that can be found in a very small village where about 40 people reside. This horrifying scenario is related to areas where the land has been completely altered, and 'European settlements' occurred. Fortunately, Brazil has made important advances in the delimitation and recognition of indigenous land. For instance, near 23% of the Amazon biome is protected indigenous land.

Not surprisingly, the future of the jaguar depends on indigenous lands,



Photo: Sebastian Kennerknecht

(Top and above): Jaguar Parade Rio de Janeiro, 2024. This initiative aimed at raising awareness about the conservation of jaguars and their habitats. The parade typically features large, artistically designed jaguar sculptures, often created by local artists. These sculptures are displayed in public spaces to engage the community and attract attention to the conservation message. Awareness programmes are conducted in the schools to spread awareness amongst the young generation



A mature adult jaguar being radio collared before releasing back into the wild

which, in combination with protected areas, can ensure its long-term survival. In fact, protected area is the main tool for biodiversity conservation; however, it is important to emphasise that the majority of remnant natural areas are on private lands. The aforementioned Forest Code has a key role for the biodiversity conservation on private lands. Permanent Preservation Areas and Legal Forest Reserves can function as

corridors, connecting conservation units which can increase the likelihood of jaguar survival even in the fragmented Atlantic Forest. In this way, calling landowners to be part of process for the jaguar conservation is crucial. 🐾

Ronaldo Gonçalves Morato is wildlife NGO Panthera's Country Director for Brazil.
Fernando Rodrigo Tortato is the Conservation Programme Coordinator for wildlife NGO Panthera in Brazil.

LENIENT PENALTIES FOR OFFENDERS

» The jaguar is protected by law in Brazil (Law 9,605/1998) and killing or persecution is illegal; however, the penalties are lenient, and offenders are usually not arrested. For instance, a poacher accused of killing more than a 1,000 jaguars between 1987 to 2019 in the Acre State, was not arrested and was only ordered to pay a fine of US\$ 80,000. Many legislative projects are currently processing in the National Congress, primarily aimed at increasing penalties. However, the process is slow, and the current position of congressmen makes the approval of these laws challenging.

» The Brazilian government is focusing on a National Action Plan for combatting Crimes against Wildlife intending to curb poaching and illegal trade. The main pillars of the Action Plan include:

- a) Environmental education and prevention of illegal activities against fauna;
- b) Monitoring and control of illegal activities against fauna;
- c) Recovery and allocation of seized fauna;
- d) Control and sustainable management of fauna: and
- e) Regulatory instruments aimed at implementing actions encompassed by the other pillars of the plan.

Cheetah Gamini taking a leisurely stroll with her cubs. This serene moment underscores the stress-free environment of Kuno



India's Cheetah Conservation Mission

Great Leap Forward

India's journey of transcontinental translocation of cheetahs started in 2022. This pivotal project demonstrates the critical role the team of veterinarians has played in ensuring the success of this mission

BY **BHUPENDER YADAV**, MINISTER OF ENVIRONMENT, FOREST AND CLIMATE CHANGE, GOVERNMENT OF INDIA

PHOTOS COURTESY **KUNO NATIONAL PARK**

On 17 September 2022, India achieved a historic milestone with the groundbreaking transcontinental translocation of eight cheetahs from Namibia to Kuno National Park in the central Indian state of Madhya Pradesh. The Hon'ble Prime Minister of India, Mr Narendra Modi personally oversaw this project. A year later, on 18 February 2023, 12 more cheetahs (from South Africa) arrived, reinforcing efforts to establish a sustainable metapopulation of this iconic species in India. And this year, on 4 February 2025, Cheetah Aasha, affectionately named so by the Hon'ble Prime Minister, was released in the wilderness of Kuno National Park along with her three India-born male cubs.

Our Hon'ble Prime Minister has been a pivotal force behind Project Cheetah, championing ecological restoration and positioning India as a leader in global conservation. His vision reflects India's broader commitment to biodiversity conservation, focusing on reviving lost species, restoring ecological balance, promoting harmonious coexistence between wildlife and humans, and fostering economic stability for local communities through sustainable

ecotourism and conservation-driven opportunities. During the launch of Project Cheetah, he emphasised the critical role of reintroducing apex predators in maintaining ecosystem health and highlighted India's conservation achievements as a global model.

The release of Cheetah Aasha's cubs is indeed a significant milestone. Led by the Hon'ble Chief Minister of Madhya Pradesh Mr Mohan Yadav, the release of Aasha's cubs marked the first-ever successful reintroduction of India-born cheetahs into the wild. This achievement not only reflects India's dedication to biodiversity conservation but also serves as an inspiring example of how collaborative efforts can lead to meaningful and sustainable outcomes for wildlife and ecosystems.

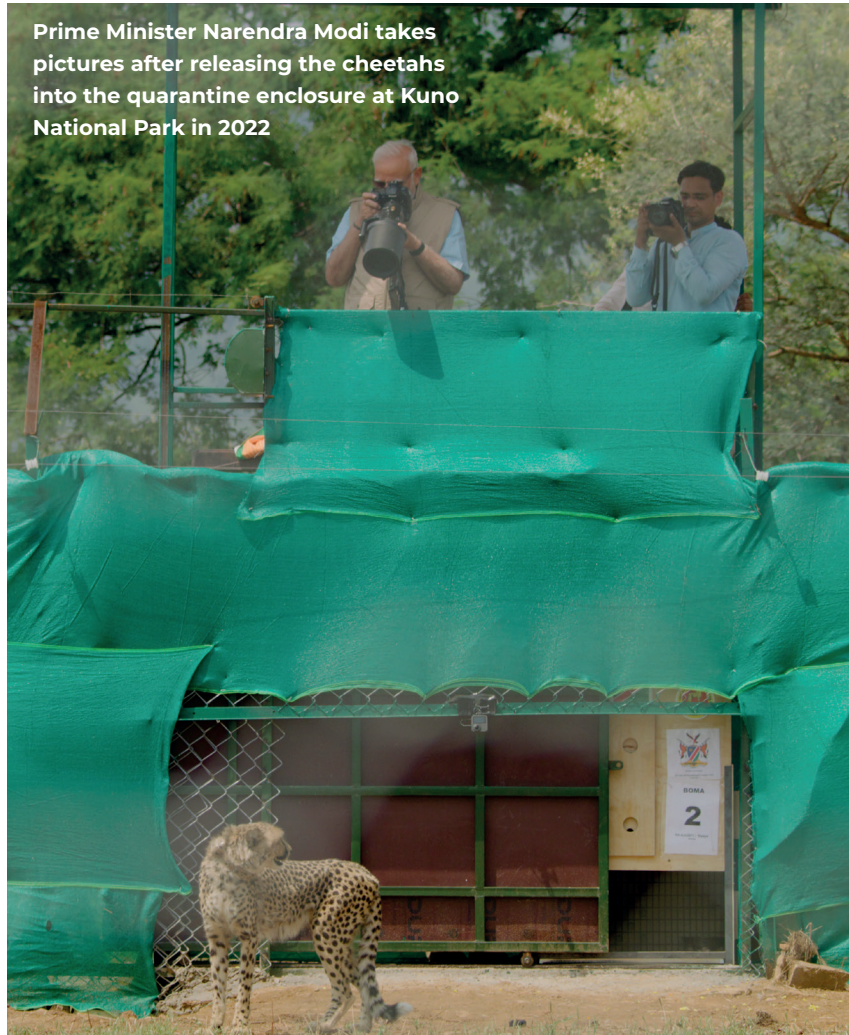
Project Cheetah has advanced steadily and in the right direction, thanks to the capable and dedicated leadership of field managers from the Madhya Pradesh Forest Department, officials from the National Tiger Conservation Authority (NTCA), representatives of the Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India, and the scientific community of Wildlife Institute of India (WII). This remarkable achievement would not have been possible without the relentless efforts of on-ground field staff, committed forest personnel, and passionate researchers from WII. Their unwavering dedication, expertise, and hard work have been the driving force behind the success of this ambitious initiative.

Through this article, I would also like to shine a light on the remarkable veterinary achievements that have been instrumental in the progress of Project Cheetah. These milestones, which hold a special place in my heart, have been pivotal to the project's success. From ensuring the health and adaptability of the cheetahs during their translocation to addressing medical challenges post-release, the veterinary team's contributions have been nothing short of extraordinary.

Veterinary Team's Unwavering Commitment

The introduction of cheetahs into a new environment is a complex and delicate process, involving not only their translocation but

Project Cheetah has not lost a single animal in capture endeavours, even after performing numerous anaesthesia-based captures over the past two years



also their adaptation to an entirely different ecosystem. Death is a natural part of life, and the introduced cheetahs did experience some post-translocation mortality during the acclimatisation phase. While all deaths were due to natural causes, the onset of an unseasonal winter coat led to infections, resulting in four consecutive mortalities.

Despite intense media scrutiny and public pressure, the veterinary team remained steadfast in their commitment. In a remarkable display of skill and dedication, they successfully located, captured, and treated all the remaining cheetahs already roaming in the wild within just four days. Their swift and decisive actions were pivotal in stabilising the health of the remaining cheetahs during this critical period.

It is also worth noting that despite cheetahs being particularly



**Team of veterinarians
attend to a cheetah in
Kuno National Park**

vulnerable to the stress of capture and capture-related deaths, the veterinary team of Project Cheetah has not lost a single animal in capture endeavours, even after performing numerous anaesthesia-based captures over the past two years. Their ability to execute such procedures with impeccable precision, while ensuring the safety and well-being of the cheetahs, speaks volumes about their expertise and dedication. Kudos to the team!

Breakthrough in Cheetah Population Expansion

Cheetahs are notoriously sensitive to environmental stress, making successful breeding and propagation in new settings a formidable challenge. Their unique reproductive needs and sensitivity to surroundings often result in low breeding success rates, even in conservation breeding initiatives. Despite these hurdles, the veterinary team at Kuno National Park has achieved a remarkable milestone by creating a stress-free environment and implementing dedicated husbandry practices, promoting natural breeding among the introduced cheetahs.

This achievement is underscored by five successful breeding instances, resulting in the birth of 21 cubs so far, with the first

successful breeding occurring within just one year of introduction of the sub-species. Notably, Namibian female Jwala has littered twice in the two and a half years since her arrival. Kuno National Park is now home to 14 surviving cubs: 1 approximately 2 years old, 11 over a year old, and 2 just a few weeks old. This remarkable success serves as nature's endorsement of the project, particularly given the delicate balance required to maintain a stress-free environment while fostering natural mating and littering behaviours. Such an accomplishment is not only a milestone for Project Cheetah but also a significant leap forward in global cheetah conservation efforts.

It is noteworthy that eleven of these Indian-born cubs are already thriving in free-ranging conditions alongside their mothers. They have demonstrated remarkable adaptation to Kuno's environment, exhibiting successful predatory behavior and skilfully navigating the challenges posed by leopards and other carnivores in the area. The veterinary team's achievements here yet again demonstrate how meticulously coordinated efforts can overcome even the most formidable challenges in wildlife conservation. Their work not only highlights the potential for success in such complex initiatives but also marks a significant stride toward restoring and sustaining cheetah populations.

A cheetah gets the feel of the
Kuno landscape inside the
acclimatisation enclosure



Foot tracking
the cheetahs of
Kuno in the open
grasslands



Securing Species for Tomorrow

Unlike zoological settings, cheetahs in the free-ranging conditions of Kuno National Park face the inherent risks and challenges of the wild. Given that every individual from the founder population is critical to the project's long-term success, ensuring their well-being is of utmost importance. The veterinary team has time and again played a pivotal role in safeguarding these cheetahs, providing timely and expert interventions that have saved multiple lives. One notable example is the veterinary care provided to Agni and Vayu, a coalition of two males who sustained limb fractures during a fierce territorial battle with the rival coalition of Elton and Freddie. For animals that depend on speed and agility to survive, such injuries could have been fatal. However, the swift response and proficient treatment by the veterinary teams from Cheetah Project and School of Wildlife Forensics and Health (SWFH) Jabalpur ensured their full recovery. Today, Agni and Vayu have reclaimed their place in the Kuno's free ranging landscape, engaging in high-speed chases, hunting successfully, and thriving as independent wild cheetahs.

A standout success of the veterinary team is the survival of Mukhi, the lone female cub from Kuno's first litter. Born during the peak summer heat, her siblings tragically succumbed to the harsh conditions, leaving Mukhi's survival in jeopardy. The team took on the delicate task of hand-rearing her, and today, nearly two years old, she has grown into a resilient individual. Currently

undergoing rewilding, Mukhi has already begun hunting independently and is poised for release into Kuno's wilderness.

As we look ahead, the progress of Project Cheetah thus far offers immense hope, not only for the revival of cheetahs in India but also for global wildlife restoration efforts. It stands as a remarkable testament to how scientific precision, strategic foresight, and dedicated fieldwork can bring a lost species back to its rightful habitat.

The path forward will demand unwavering commitment, adaptive management, and continued collaboration among conservationists, policymakers, scientists, and local communities. Yet, if this journey has demonstrated anything, it is that perseverance and collective resolve can turn even the most ambitious conservation dreams into reality. As India charts a new course in conservation history, let us embrace this spirit of stewardship, ensuring that these magnificent cats once again roam freely in their ancestral lands. Most importantly, let us take a moment to celebrate and honour the selfless, dedicated veterinarians of Project Cheetah. Their expertise, resilience, and unwavering commitment remain the foundation of this pioneering initiative, ensuring the health, survival, and well-being of these extraordinary animals. 🐾

Mr Bhupender Yadav is the Minister of Environment, Forest and Climate Change (MoEFCC), Republic of India and President of the International Big Cat Alliance (IBCA).

A leopard near the
Yala National Park

Photo: Riaz Cader

The Big Cat of Lanka

Leopards are the only apex predators in the island nation of Sri Lanka. Habitat loss and wild snares used to trap pests have threatened the leopard population. Efforts are on to build conservation corridors for the species

BY ANDREW KITTLE

Like an oversized kitten, the resident male leopard rolls on his back beside the dusty jeep track, unperturbed by the relentless clicking of cameras. His tawny coat, patterned by irregular, black rosettes, is reddened by the dust his movement stirs up, while his exposed chest and belly gleam white in the fading evening light. Lazily, he rolls onto his side, back to the cameras as if distaining the frenzied clamour there, and snaps absently at a fly hovering around his muzzle. He then stands, stretches languidly and glances back at the watching horde – his impenetrable gaze eliciting a fresh eruption of clicking – before sauntering, unhurried and somehow, un-harried, into the thorny scrub of Yala National Park.

The park is one of Sri Lanka's largest, dotted with lagoons, and boasting of a high density of leopards. In Sri Lanka, the leopard (*Panthera pardus kotiya*) is the apex predator, a position it has

held for thousands of years, since well before the land bridge that once connected the island nation to India was submerged beneath the waves of the Palk Strait around 7,000 years ago. This unique heritage has allowed the endemic sub-species found here to evolve subtle behavioural adaptations including increased sociality, a preference for larger prey and less restricted habitat selection. Therefore, whether wandering the arid, southeastern coastal scrub forests of Yala, or traversing the white sand expanses that ring the circular, rain-fed lakes (villus) of Wilpattu National Park in the northwest, in Sri Lanka's most secure protected areas (PAs), leopards truly reign supreme – and often act accordingly.

Once distributed throughout the 65,610 km² island, the 800 or so mature leopards here now occupy < 40% of their historic range. However, apart from most of the densely human-populated southwestern wet zone, and the vast agricultural heartland in

Playful leopard cubs
filmed by a camera trap
in the Central Highlands

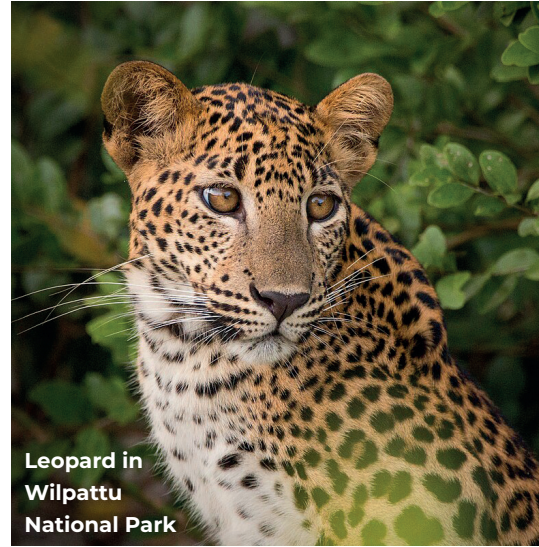
Photo: Wilderness and Wildlife Conservation Trust



Although snaring is illegal in Sri Lanka, it continues as a 'pest control' mechanism and also as a way to procure bushmeat

the north-central region, leopards remain across much of the island. Their distribution includes all climatic zones from arid, coastal strips to dense lowland rainforest; from the vast evergreen, monsoonal forests of the dry zone to shadowed wet zone glades, and the transitional intermediate zone between the two. Leopards can roam across elevation gradients, from sandy beaches lapped by ocean waves to the gentle hills and rocky outcrops of the interior lowlands; from sub-montane slopes cloaked in dense forest and lush tea, up to the low-canopy cloud forests of the montane zone and the island's highest point at 2,500 masl.

Although the island's more celebrated PAs – Yala National Park and Wilpattu National Park – might harbour the most visible and, together with Horton Plains National Park in the Central Highlands, highest density populations, the Sri Lankan leopard is also found in many other PAs as well as in completely



Leopard in
Wilpattu
National Park

Photo: Wikimedia Commons

unprotected landscapes. In the fragmented, unprotected tea plantation landscape of the Central Highlands for example, leopard density is not much lower than in their PA strongholds. Here they feed overwhelmingly on the wild prey – like barking deer (*Muntiacus muntjak*), black-naped hare (*Lepus nigricollis*) and toque macaques (*Macaca sinica*) – and avoid undesired interactions with humans by reducing daytime activity.

Death traps

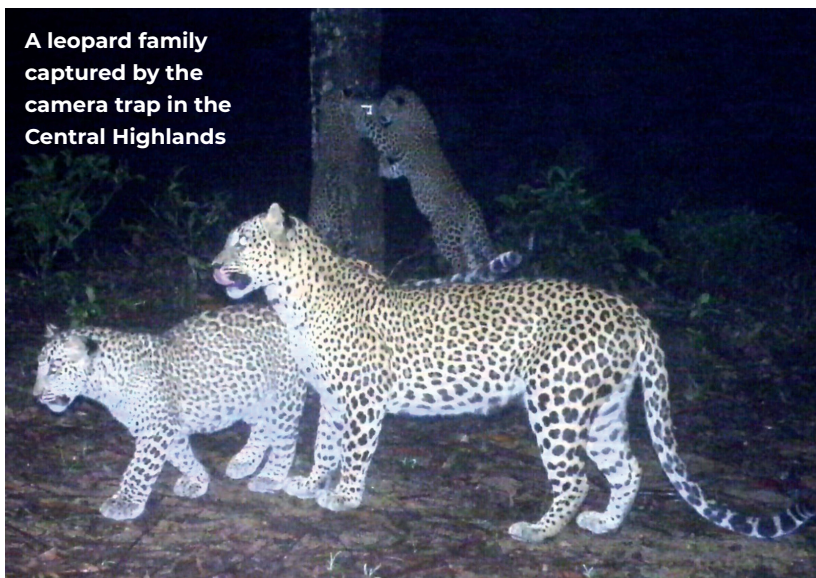
Despite efforts to avoid directly encountering humans, leopards in these unprotected landscapes still routinely succumb to a more insidious, indirect threat – wire snares. The snares (a noose made of steel wire) are often set by villagers, primarily to trap pests like wild boars. Although snaring is illegal in Sri Lanka, it continues as a 'pest control' mechanism and also as a way to procure bushmeat. Every year several leopards are found caught in snares in the Central Highlands, and despite the best

efforts of the Department of Wildlife Conservation, five to 10 die annually.

In other parts of the island, threats experienced by leopards can differ. In the lowland dry zone, where herds of cattle graze in PA buffer zones, leopards occasionally kill livestock which can result in retaliatory killing of leopards by cattle owners. This is typically enacted by poisoning the predated livestock carcass. In the southern buffer zone of Yala National Park, there is a perception that leopards cause widespread losses to cattle owners, however surveys have revealed that leopard predation is only the fourth highest cause of cattle loss here, after theft, cattle wandering away, and disease. Nevertheless, losing a cow to leopard predation is memorable and provides a clear target at which to direct retribution, so the threat remains high.

As for most wildlife species globally, habitat loss and

A leopard family captured by the camera trap in the Central Highlands



In this predominantly Buddhist society, there is hope for the long-term viability of the Sri

Lankan leopard. The species is now listed as Vulnerable in the IUCN Red List

fragmentation is the most pressing concern for the long-term viability of leopards in Sri Lanka. Due to land conversion for urban space or agriculture this loss is increasing since the end of Sri Lanka's protracted civil war (1983-2009). As leopards are wide-ranging species requiring sizeable spaces in which to survive, ensuring intact, prey-rich forests is a high priority for conservation. A key aspect here is ensuring connectivity of the remaining suitable leopard habitat, with contiguous corridors and/or closely-spaced forest patches in the form of 'stepping stones', required to allow maturing animals to disperse and to ultimately avoid inbreeding.

Targeted leopard conservation initiatives are being undertaken by a variety of Sri Lankan organisations. When the Wilderness & Wildlife Conservation Trust (WWCT) began research in the early 2000s, the elephant was the undisputed star of Sri Lanka's wildlife scene, with tourism, policy and research all focused on this indisputably charismatic mega herbivore. The island's apex carnivore was almost a mystery. With the lion on Sri Lanka's national flag and the government long embroiled in a war against a guerrilla organisation known as the 'Tigers', the leopard was a distant third even amongst the big cats in terms of penetrating the common consciousness, behind two not found on the island for many millennia.

But gradually, the urgency to protect the species emerged. Effective conservation actions have been instituted: 1) ongoing research aimed at expanding the knowledge-base which underpins any government-level policy decisions; 2) education and awareness

campaigns to improve public understanding of leopards and their integral role in the ecological systems upon which we all depend, and to dispel the fear factor which can lead to misguided and harmful actions; 3) on-the-ground, landscape-level initiatives which act to preserve/link/restore vital habitat; and 4) ongoing identification and quantification of threats to ensure that emerging risk factors are not overlooked.

For several years, the WWCT focused exclusively on filling the research gap, conducting island-wide presence-absence surveys and ecological and behavioural studies in the island's main PAs (Yala, Wilpattu, Horton Plains) as well as lesser-known sites (like the Ritigala Strict Natural Reserve, Gal Oya National Park). Twenty years later, there is a more robust understanding of the basics, with an ever-increasing number of organisations focusing on the steps that need to be taken to ensure the population's continued existence.

Corridors for Conservation

The WWCT's 'Corridors for Conservation' project aims to identify key landscape-level connections across Sri Lanka's Central Highlands. Based on observed leopard land use from extensive remote camera surveys, two such Corridors – the Peak Ridge Forest

Corridor and the Elbedda Ridge Corridor – have been established in collaboration with six plantation companies across 20 tea estates in the southern Highlands.

The WWCT has also initiated a Forest Guardian Programme across a number of selected estate schools under which interactive presentations about wildlife and the wider environment are conducted, field visits to learn about reforestation and research organised, and classroom equipment and accessible learning materials provided. Awareness programmes for estate workers are also conducted. Finally, the project undertakes regular snare removal patrols and a reforestation initiative planting native species in selected abandoned tea lands with the aim to bolster and/or buffer existing forest patches and improve habitat quality for the region's wildlife.

With such ongoing initiatives, combined with the iconic status the leopard has acquired in recent years in Sri Lanka, and the conservation ethic that pervades in this predominantly Buddhist society, there is hope for the long-term viability of the Sri Lankan leopard. The species is now listed as Vulnerable in the IUCN Red List. However, to ensure that this majestic feline can continue to stalk the shrouded forest trails and misty, highland glades of the island, it is essential to remain vigilant about threats and be proactive in addressing them. For the leopard's sake, and ours. 🐾

Dr Andrew Kittle is Founding Trustee and Principal Investigator of the Wilderness & Wildlife Conservation Trust, Sri Lanka.

A mature cheetah with
a juvenile in a thicket

Cheetah's Last Great Refuge

The Tsavo National Park has emerged as the largest stronghold of the species now considered Endangered in Kenya

BY **CHERIE SCHROFF, ZARA MCDONALD & ALYS GRANADOS**

ALL PHOTOS COURTESY **FELIDAE CONSERVATION FUND**

In the heart of Kenya, where vast savannas meet rugged terrain, the biodiversity-rich Tsavo ecosystem stands as one of East Africa's last great refuges for the cheetah (*Acinonyx jubatus*). Known for their breathtaking speed and elusive nature, cheetahs here face mounting challenges in a landscape increasingly shaped by human activity.

Tsavo National Park, located in southeastern Kenya east of Mount Kilimanjaro, is the largest of Kenya's national parks and one of the world's largest conservation areas. Established in 1948, it was later divided into two administrative units: Tsavo East and Tsavo West. Drained by the Tsavo and Galana rivers, and the Tiva River to the north, the park features acacia scrub, scattered woodlands, savannah grassland and semi arid plains dotted with acacia and baobab trees. Dormant vegetation bursts into luxuriant bloom after light rains.

While Tsavo East is relatively flat, Tsavo West boasts of volcanic landscapes with numerous springs and seasonal manmade waterholes. The park is home to diverse wildlife, including elephants, lions, rhinoceroses, buffalo, hippopotamuses, hartebeests, various antelope species, and hundreds of bird species. However, poaching and habitat loss remain persistent challenges. The Nairobi-Mombasa highway and railway divide Tsavo East and Tsavo West, fragmenting this expansive ecosystem.

Tsavo East and Tsavo West anchor the unique ecosystem that spans over 42,000 km². These two sites are home to a range of tribes, cultures and land use types. Yet, between these parks lies an expanse of unprotected land dominated by livestock ranches. This vital area serves as a critical corridor for cheetah movement, enabling genetic exchange and dispersal necessary for the species' long-term survival. Unfortunately, rising human development, including roads, railways, and commercial ventures, threaten to fragment this essential habitat.

Once spread across vast stretches from Africa to southwestern Asia, cheetahs have vanished from 91% of their historic range. Only about 6,517 individuals remain worldwide. The International Union for Conservation of Nature (IUCN) classifies the cheetah as 'Vulnerable' on



Camera traps are used by TCP to monitor wellbeing and movement of the cheetahs

Once spread across vast stretches from Africa to southwestern Asia, cheetahs have vanished from 91% of their historic range

its Red List of Threatened Species. In Kenya however, cheetahs are listed as 'Endangered' under the country's Wildlife Conservation and Management Act, making the Tsavo region — one of their largest remaining strongholds — crucial for the species' future. Tsavo's cheetahs also have the potential to connect with Tanzania's cheetah populations, forming a transboundary conservation corridor that could enhance genetic diversity and population resilience.

Cheetahs are apex predators crucial to maintaining the balance of Africa's ecosystems. By regulating populations of small herbivores, they help prevent overgrazing and preserve the health of the landscape. Unlike other big cats, cheetahs require vast territories, establishing expansive home ranges and existing at low population densities. This makes them especially vulnerable to habitat fragmentation. Genetic exchange between populations is vital for their survival, but as

SPOTLIGHT ON CHEETAH IN KENYA

landscapes become fragmented, isolated cheetah populations face increased risks of inbreeding, reduced reproductive success, and heightened susceptibility to disease—factors that could accelerate their path to extinction. Moreover, since most cheetahs reside outside of protected areas, they serve as an important indicator species for the health and connectivity of broader ecosystems.

While Tsavo National Park is famous for its ‘Man-Eaters’—two lions that preyed on railway workers in 1898—it is also home to one of East Africa’s largest and most resilient cheetah populations. Spanning over 16,000 square miles, this semi-arid ecosystem remains a cheetah stronghold, with potential for cross-border connectivity to Tanzania. Despite its vastness, Tsavo’s landscape faces growing human pressures, including infrastructure development, livestock grazing, and land conversion, which threaten its continuity.

Role of Ranchlands in Cheetah Conservation

Tsavo East and Tsavo West areas are separated by one million acres of privately owned ranches that serve as vital wildlife corridors. These ranchlands have

traditionally allowed cheetahs to move freely, ensuring gene flow and population dispersal.

However, the infrastructure expansion—roads, railways, commercial development, and electric fencing—now threaten this connectivity. For cheetahs, especially females with larger home ranges, the inability to traverse these barriers could spell disaster.

Despite their ecological importance, no comprehensive studies have assessed whether these ranches function as effective corridors or as ecological “sinks” with higher mortality risks. Past research has relied on interviews and spoor surveys, but robust, data-driven insights are needed to determine how cheetahs navigate these landscapes and how human activity impacts their survival.

Since its launch in 2011, the Tsavo

Cheetah Project (TCP) has been working to fill this critical knowledge gap in cheetah conservation. In collaboration with the Kenya Wildlife Service (KWS) and the Wildlife Research and Training Institute of Kenya (WRTI), among other groups, TCP monitors cheetah populations across the Tsavo region using camera traps, and movement tracking. By gathering data on cheetah density, demographics, and movement patterns, the project maps key connectivity pathways while identifying human-caused barriers that threaten species’ survival.

The urgency of this work was underscored when a mother cheetah and her three cubs became trapped inside a fenced livestock ranch under commercial development. Despite an existing agreement with the landowner, the situation only came to light through

“ Cheetah populations face increased risks of inbreeding, reduced reproductive success, and heightened susceptibility to disease ”

A cheetah out on a hunt in the dry areas of the forest

Photo: Ingrid Vekeman





Infrastructure expansion - especially electric fencing - threatens connectivity between Tsavo East and Tsavo West. For cheetahs, the inability to traverse these barriers could spell disaster

local rangers. The TCP team quickly deployed camouflaged infrared cameras to monitor the family non-invasively. Through persistent collaboration with ranch management, the cheetahs were eventually guided to safety. However, such incidents are becoming alarmingly frequent as development expands.

One of the most pressing threats here is the proliferation of electric fencing, designed to mitigate human-elephant conflict but posing deadly barriers to cheetahs and other wide-ranging species. Fencing put up by private ranchers often causes injuries and even deaths to animals like the cheetahs.

A critical focus of TCP is estimating cheetah density through identification of known individuals seen in camera trap images. It is also assessing habitat suitability for cheetahs in this landscape identifying key corridors and conservation areas. This information shall help them predict cheetah movement patterns and connectivity impacts, providing actionable insights for corridor protection.

By combining scientific research, community partnerships, and advocacy, the Tsavo Cheetah Project is helping ensure that cheetahs continue to move freely across one of East Africa's last great wildernesses.

Conservation in Tsavo is not just about data collection — it's about people. Partnerships with livestock ranches and conservancies across the 16,000 square-mile Tsavo Conservation Area have significantly reduced human-cheetah conflict. Education programmes and conflict mitigation efforts have helped transform attitudes towards cheetahs, reducing retaliatory killings following livestock depredation. Livestock owners are learning about practical ways to protect their herds without endangering wildlife and the ranches, and the many benefits of transforming into a wildlife conservancy.

The TCP team's work is vital in protecting corridors like the Kasigau Corridor, linking Tsavo East and West. Besides, cheetahs, other carnivores such as the African wild dog, leopards and their prey species also

benefit from such activities.

The TCP has also played a key role in revitalising conservancy volunteer programmes in the wake of the COVID-19 pandemic. One significant outcome has been the promotion of more wildlife-friendly tourism across all project locations, supported by our network of partners, patrons, and social media outreach. This increased visibility has led to new partnership agreements between TCP and neighbouring conservancies while also encouraging more livestock ranches to register as official wildlife conservancies.

In Tsavo, there is hope that in wild spaces the cheetahs will sprint freely, sustaining the spirit of the savanna for generations. 🐾

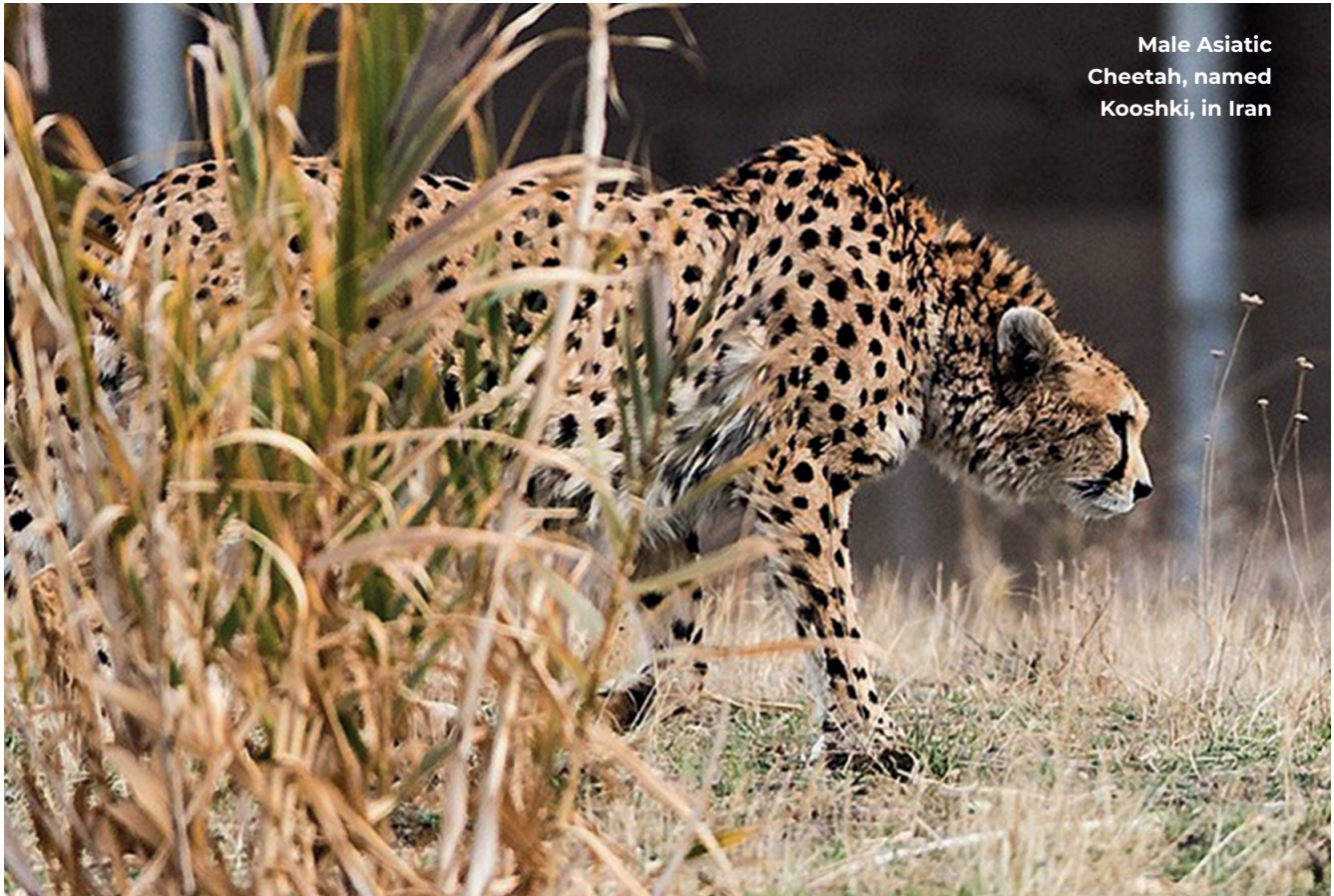
Cherie Schroff is the Founder and Principal Investigator of the Tsavo Cheetah Project.

Zara McDonald is the Founder and President of Felidae Conservation Fund.

Alys Granados is a wildlife ecologist with Felidae Conservation Fund.

Male Asiatic
Cheetah, named
Kooshki, in Iran

Photos: Erfan Kouchar /Wikimedia Commons



A Fragile Future

Iran is today the only home of Asiatic cheetah in the wild. Dwindling population size and inbreeding concerns pose a serious challenge to Iran's conservation efforts

BY TAMALI MONDAL

In the 1950s, eastern Iran was home to the Asiatic cheetah in over 40 localities, with an estimated population ranging from 100 to 300 individuals. The cheetah was granted legal protection in the country in 1959. However, since the early 1980s a significant drop in the cheetah population and their range has been reported. Today Iran, considered for more than two decades the last stronghold for the Asiatic cheetah, is struggling to ensure that the species are not lost forever.

Once roaming freely across vast, non-forested expanses of Africa, the Middle East, and southern Asia, the cheetah (*Acinonyx jubatus*) faces an alarming loss of habitat across the world. Recent studies reveal that Africa has experienced a staggering 76% reduction in the historical range of this magnificent feline.

The Asiatic cheetah has been listed as 'Critically Endangered' on the IUCN Red List since 1996. Due to two ancestral population bottlenecks, this species exhibits very low genetic diversity

compared to other endangered species and certain felids. The Asiatic cheetah (*Acinonyx jubatus venaticus*) is genetically distinct from its African counterparts and has undergone even more drastic declines in both population size and distribution.

In Iran, wildlife experts claim the chaos that ensued after the Iranian Revolution of 1979, and Iran-Iraq war (1980-1988), resulted in a period of lost opportunities. Insufficient law enforcement led to a decrease in cheetah populations due to conflicts between humans and wildlife,

Male and female
Asiatic cheetahs in Iran



habitat loss and fragmentation, and a decline in prey (especially the gazelle) availability. By the late 1990s, fewer than 40 cheetahs were left in Iran, although some estimates suggested a marginally higher count. The establishment of the Conservation of Asiatic Cheetah Project (CACP) in 2001 represented a pivotal moment in the desperate struggle to save this iconic species.

Throughout early 2000s, cheetah numbers hovered under 60, concentrated in five reserves. As conservation initiatives intensified, experts discovered new areas where cheetahs were confirmed to roam. In the late 2000s, the cheetah population had increased. Iran's 'A Field Guide to Mammals' confirms that cheetah population is now believed to hover around 70-100 individuals.

Yet, the cheetah's future appears fragile in Iran. The uncertainty persists about their long-term survival. The Iranian Cheetah Society (ICS) initiated a comprehensive nationwide assessment of the cheetah population from 2011 to 2016. This ambitious initiative unfolded in three phases, engaging in collaborative efforts with the Department of Environment (DoE), the Conservation of Asiatic Cheetah Project (CACP), and various NGOs dedicated to safeguarding critical cheetah habitats. Researchers monitored 11

key areas across five arid provinces—Yazd, Kerman, North Khorasan, South Khorasan, and Isfahan—to gather vital insights into the species' status and conservation needs. Alarmingly, their findings indicated no

Since 2022,
research teams
have captured an
astounding 355,000
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with 797 of these
identifiable as
Asiatic cheetahs

signs of breeding among female cheetahs in the southern habitats since 2010, while signs of breeding persisted in the northern regions. The absence of cheetah populations in the south, and a lack of research in vital northern habitats, have added to the conservation problem.

An exhaustive study titled 'Asiatic Cheetah population Monitoring, Northern habitats Iran, 2021-2023' employed

advanced camera trapping techniques in the Touran Biosphere Reserve and the Miandasht Wildlife Refuge, aimed at assessing the present state of these elusive predators. Since 2022, research teams have captured an astounding 355,000 images of wildlife, with 797 of these identifiable as Asiatic cheetahs.

This recent research on the landscape genetics of the two remaining cheetah subpopulations in Iran has shed light on the present state of the species. Scientists have found that this small population suffers from extremely low genetic diversity and a high degree of relatedness among individuals, making natural

recovery unlikely. Although there are viable corridors to connect subpopulations, dwindling adequate population size and inbreeding concerns present significant challenges.

The region of Touran, a protected area considered to be the second biosphere in the world after the Serengeti of Africa, Tanzania, boasts the highest genetic diversity among cheetahs, is prioritised for conservation efforts. Protecting this area is crucial as it has shown signs of successful breeding. Additionally, safeguarding against vehicle collisions and restoring local herbivore populations, particularly gazelles, can further support cheetah movements and habitat reoccupation in Kavir National Park.

The survival of this subspecies hinges on immediate and effective conservation strategies to protect the remaining individuals and facilitate their growth and expansion. The collaborative initiatives undertaken by the Iranian Cheetah Society, the Conservation of Asiatic Cheetah Project, and various environmental organisations are paving the way for a brighter future. With continued support and commitment, it is possible to witness the resurgence of the Asiatic cheetah across its historical range. 🐾

Dr Tamali Mondal is Programme Associate at IBCA.

‘Our challenge has been to bridge the gap from cheering Go Tigers to fostering action for tiger conservation’

—PROF BRETT WRIGHT

Photo courtesy: Brett Wright



Prof Brett Wright at the Clemson University campus

Prof Brett Wright has held several key roles during his 22-year tenure at Clemson University, USA, including chair of the Department of Parks, Recreation, and Tourism Management, founding dean of the College of Behavioural, Social, and Health Sciences, and special assistant to the Provost as the Director of the Tigers United University Consortium. His work extends far beyond the Clemson University campus as he spent his career identifying and solving problems across the world, including tiger

conservation in India and beyond.

The Tigers United University Consortium comprises four land-grant and tiger-mascot universities in the United States (Clemson University, Auburn University, Louisiana State University and the University of Missouri) with the mission to support the Global Tiger Recovery Programme. The Consortium was initiated by Clemson University's President – James P Clements, who also serves on the Global Tiger Initiative Council. This international council, comprised of business and conservation

leaders, assists the Global Tiger Forum in recovering wild tiger populations.

Ravina Yadav, talked to Prof Brett Wright to explore how a unique research partnership spans multiple universities with the aim to help conserving tigers in the wild.

Ravina Yadav (RY): How did you get involved in big cat conservation?

Brett Wright (BW): My fondness for wildlife began in childhood, leading me to focus on human interactions with natural environments during my academic career. When I joined Clemson University 22 years ago, the legacy of national parks shaped by George B. Hartzog Jr (the seventh director of the National Park Service, USA) drew me into park-focused work.

Attending my first Clemson University football game, I was inspired by the passion of 100,000 fans cheering for the Tigers and thought, 'What if this energy could support wildlife conservation?' Later, during a presentation of my work at a conference in California, a conversation with Mr Keshav Varma (Founding Director of the World Bank's Global Tiger Initiative) connected my work with tiger conservation. Partnering with Dr Rajesh Gopal (Secretary General of Global Tiger Forum) and Dr SP Yadav (Interim Director of International Big Cat Alliance, IBCA) helped bring Clemson's tiger identity into meaningful conservation efforts, cementing my work in this field.

RY: How did the Tigers United University Consortium start?

BW: The idea for the Tigers United University Consortium emerged from Clemson's passion for tiger conservation and the efforts of the student group 'Tigers for Tigers', led by Dr Dave Tonkin.

Recognising the potential for a more significant impact, we formalised an MoU (Memorandum of Understanding) with the World Bank in 2011 to involve faculty and students.

The initiative gained momentum in 2014 when Clemson's President James P Clements learned of my passion for tiger conservation. He expressed a moral obligation to help and invited other universities with tiger mascots to join the cause. His commitment was a turning point, leading to the creation of the consortium.

Photo courtesy: Clemson University



RY: Why does the tiger matter to you and Clemson?

BW: The tiger is central to Clemson's identity. It's our mascot, symbolised by the iconic Tiger Paw, modelled after a real tiger paw from the University of Chicago's Natural History Museum. The tiger paw print is everywhere: on roadways leading to Clemson, on signs, in offices, and every corner of town. On game days, 100,000 fans descend on our small town, creating a buzz beyond the stadium. Many don't even

attend the games—they're just here for the atmosphere and the deep connection to the tiger. It's part of Clemson's DNA and central to our identity, culture, and economy. Therefore, losing this iconic species would be a profound symbolic loss for Clemson. The same can be said for our three consortium university partners and their communities.

RY: How are the consortium's partner universities contributing to recovering the tiger population in the wild?

BW: The consortium's partner universities contribute uniquely to the mission of recovering wild tiger populations. Auburn University, for instance, has established a master's programme in partnership with the Forest College and Research Institute in Hyderabad, facilitating student exchanges and collaborative efforts. Louisiana State University has been instrumental in genetics research for captive tigers and has cared for rescued tigers under its veterinary school. This work is vital, particularly in light of the Big Cat Safety Act and the welfare of thousands of captive tigers in the USA. Meanwhile, the University of

Missouri collaborates with the Saint Louis Zoo, focusing on endangered species programmes, including tiger health and reproduction. At Clemson University, we emphasise driving awareness, research in conservation, social science, and technology transfer. Together, these universities form a robust, global network working toward securing the tiger's future.

RY: What programmes does the Tiger University Consortium run, and how can researchers and students collaborate to enhance tiger conservation?

BW: One of our key initiatives is the 'Team Up for Tigers' programme, an environmental education effort aimed at inspiring young students to understand the importance of tiger conservation. It's designed to engage future generations and raise awareness about this critical cause.

Research is another vital component. Over the years, both graduate students and faculty have been involved in a range of projects focused on tiger ecology and conservation challenges. We've funded a PhD programme to support and nurture talent in tiger conservation. Dissertations and thesis have provided valuable insights into tiger biology and habitat management. The idea is to ensure that students apply their knowledge directly to conservation efforts in their

Tiger mascot of Clemson University



CONVERSATIONS WITH PROF BRETT WRIGHT

home countries. Initially, we funded eight candidates, prioritising research that addresses conservation issues in India, with the requirement that students return to contribute in big cat conservation.

To date, five students have graduated, including Dr Pramod from Sankala Foundation, who was the first to complete his PhD through this programme. Dr Matt Brownlee, a professor at Clemson University, mentored Pramod's research in conservation social science. Pramod now uses his expertise to support big cat conservation in India.

Our work extends beyond research. For example, we've partnered with organisations in Kenya's Maasai Mara to develop capacity building programmes for park managers and rangers.

RY: What kind of progress the consortium envisages?

BW: The consortium has immense potential to shape tiger conservation in the range countries. While India leads global efforts, expanding our focus to other tiger range countries like Malaysia, Indonesia, and Vietnam is crucial. Vietnam's plans to reintroduce tigers highlight the need for broader engagement.

We should also consider other big cats, such as jaguars in the Rio Grande Valley of the USA, whose conservation underscores shared global responsibility. I am also advisor to IBCA and continue to support their initiatives.

Challenges persist, especially as conservation risks losing prominence in public policy under the current USA administration. However, global collaboration remains critical. Our challenge has been to bridge this gap—from cheering “Go Tigers” to fostering action for tiger conservation. We must move beyond rhetoric to impactful measures to secure a sustainable future for big cats.

RY: How can India and the United States collaborate to conserve big cats?

BW: My visits to India's tiger reserves have been inspiring and enlightening. The dedication and effort put into conserving these magnificent animals are



'Go Tigers', a mantra for football lovers and conservation enthusiasts



Prof Wright with Indian team of conservationists

unparalleled, and India undoubtedly leads the world in tiger conservation. I also feel honoured to serve as an advisor to the IBCA, a position Dr SP Yadav invited me to.

India and the United States have rich populations of big cats. With 95 countries hosting big cat species, there's immense potential for sharing best practices in conservation that are transferable across regions and species. While India has made tremendous strides in recovering the tiger population in the wild, collaboration between our two countries could involve exchanging ideas on habitat management, technology, and community engagement.

RY: What role do friendships and

collaboration play in conservation efforts?

BW: I'd like to emphasise the importance of friendships in conservation. As Mr Keshav Varma often says, this work is about building friendships. Over the years, we've created an extensive network through the World Bank, the Global Tiger Forum, and other initiatives like IBCA. These connections go beyond professional relationships; they're lifelong bonds driving our shared mission forward. Ultimately, friendships and collaboration remain the backbone of conservation efforts. These relationships will be key to protecting tigers and other big cats globally.

Go Tigers! 🐾

All photos unless specified are courtesy Tigers United/Flickr

A photograph of two Asiatic lionesses at a waterhole. The lioness on the right is in the foreground, drinking from the water with its pink tongue extended. The lioness on the left is slightly behind it, also looking down at the water. They are surrounded by tall green grass. The water reflects the surrounding greenery and the lions.

SISTERS AT THE WATERHOLE

Two Asiatic lionesses (sisters) at a waterhole in Gir National Park & Wildlife Sanctuary Gujarat. Lions typically don't seek out water for recreational swimming, but waterholes and rivers attract prey animals, so they often congregate around these areas. Such waterholes are great spots to observe these majestic big cats

PHOTO BY SHIKHAR MOHAN

FROM THE FIELD

INSIDE RETITI ELEPHANT SANCTUARY

Bonding with the Wild

TEXT & PHOTOGRAPHS BY **GEORGINA GOODWIN**






Reteti Elephant Sanctuary, nestled within the breathtaking Namunyak Conservancy in northern Kenya, is Africa's first community-owned elephant sanctuary. The Sarara Foundation spearheaded this groundbreaking project, which champions the coexistence of wildlife with the indigenous Samburu people, who have lived alongside wildlife for generations, are at the forefront of this conservation effort.

Droughts, poaching and human-wildlife conflict have resulted in an increasing number of orphaned wild elephant babies. Reteti provides a lifeline by rescuing and rehabilitating these vulnerable animals. Trained Samburu keepers, like Lekupania, care for zebras and giraffes and nurture them at nearby Sarara, while the elephant babies are cared for at Reteti.

Reteti is a model for human-wildlife coexistence. By preserving their cultural heritage and fostering sustainable livelihoods, Reteti offers hope for a thriving future for both people and wildlife in this unique ecosystem. 🐾

□ Naltwasha, a Samburu girl, interacts with Shaba, one of the many orphaned elephants of Reteti

A photograph showing a man in a red patterned wrap standing in a dry, dusty landscape, watering a group of camels. The camels are gathered around a wooden structure that serves as a well. The man is holding a metal bucket and pouring water. The camels are light-colored and some have dark collars. The background is a clear blue sky and dry brush.

□ The Samburu “sing-ing wells” have remained unchanged for centuries. Songs, passed down through generations unique to each family, are sung by each Sam-buru warrior while watering their livestock, keeping the livestock calm and strength-ening community bonds

□ Lions in Samburu National Reserve bordering Namunyak Conservancy. Lions have lost 90% of their African range in the last 75 years, and increas-ing droughts are causing increased pressure, leading lions into conflict with people. “Samburu lore indicates that if one’s cow is attacked by a lion, blessings and riches befall that family in all their endeavors. They no longer hunt lions and are beginning to realize their importance to the ecosystem,” says Shivani Bhalla, a fourth-generation Kenyan, working to support lion populations in Samburu



□ Wildlife keeper Lekupania at Sarara Camp gets nibbles for cuddles from orphaned Grevy's zebra at the Sarara stables. These zebras were orphaned but soon, they will be rehabilitated and returned to the 850,000-acre Namunyak Conservancy once they are ready

□ In the heart of Samburu, as the sun dips below the horizon, elephants cross the Ewaso Nyiro River in perfect, unbroken lines—a powerful reminder of their deep connection to these ancient lands

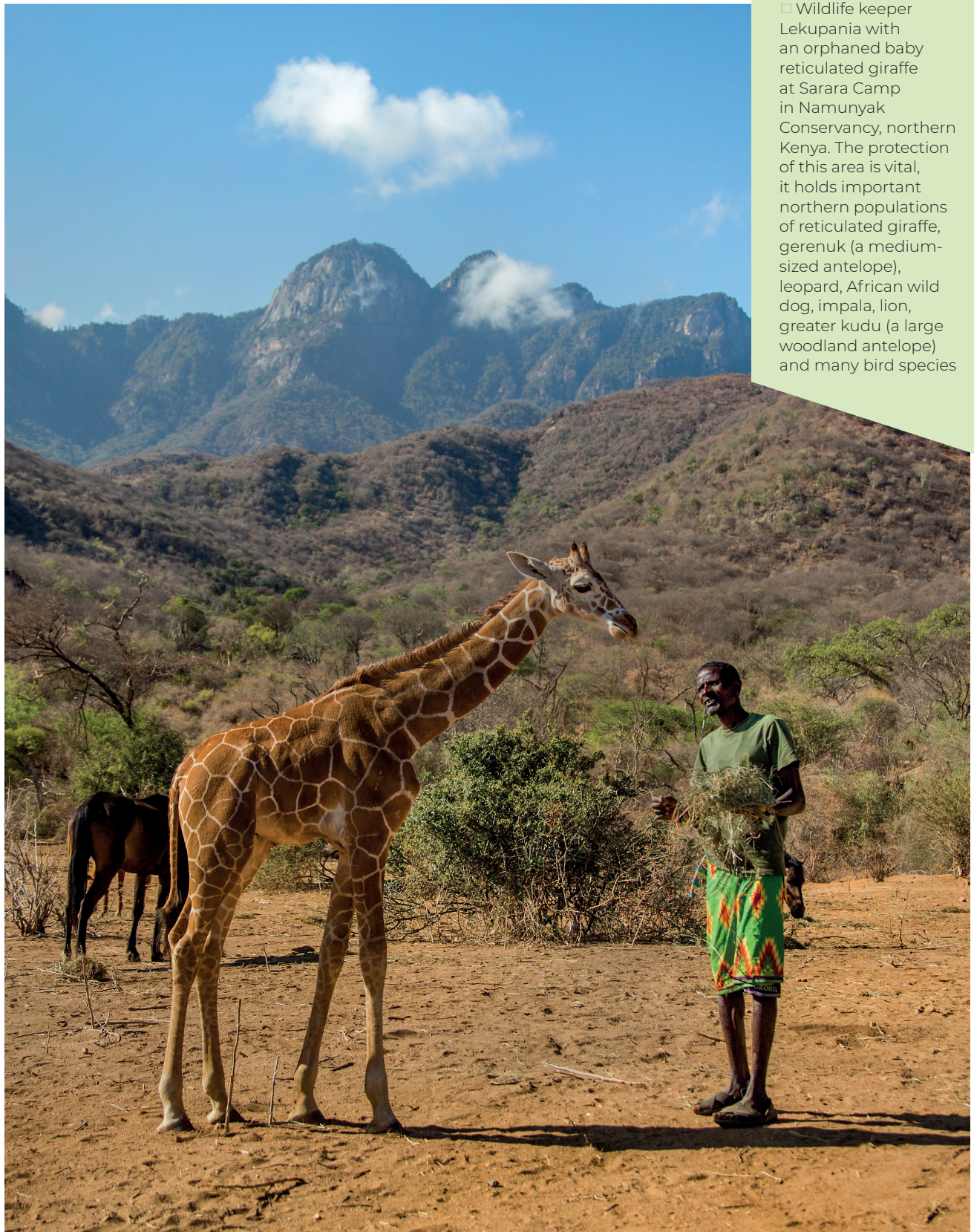




□ Namunyak Community Conservancy ranger keeps watch at Sarara Camp's waterhole. Sarara opened in 1997 after an intense period of poaching in the area, now after 25 years it has seen one of the most profound and effective community conservation movements in the world come to life. When the elephants began to trust again and recognise that they were now protected, the other wildlife followed suit

□ Feeding time at the Reteti Elephant Sanctuary. Reteti's elephant keepers and staff are trained in the care, rehabilitation and release of elephant calves. All are Samburu, recruited from within Namunyak Conservancy. The Samburu have lived alongside wildlife for thousands of years and have deep respect for elephants with whom they share the land and its resources





□ Wildlife keeper Lekupania with an orphaned baby reticulated giraffe at Sarara Camp in Namunyak Conservancy, northern Kenya. The protection of this area is vital, it holds important northern populations of reticulated giraffe, gerenuk (a medium-sized antelope), leopard, African wild dog, impala, lion, greater kudu (a large woodland antelope) and many bird species



BY RAVINA YADAV

A representative photograph of a snow leopard from Ladakh, India

Photo: Koustubh Sharma



World's 11-21% Snow Leopards are in China

The first large-scale estimation of snow leopard (*Panthera uncia*) density and population size in China, reveals that the Sanjiangyuan region of the Qinghai-Tibet Plateau supports approximately 1,000 individuals. This accounts for 11-21% of the global snow leopard population, highlighting China's crucial role in the species' conservation, as the country encompasses 60% of its total habitat.

Sanjiangyuan, which contains the headwaters of the Yellow, Yangtze, and Mekong rivers, provides an ideal habitat for snow leopards, largely due to its abundant population of bharal (*Pseudois nayaur*), or blue sheep—the species' primary prey. Diet analysis indicates that bharal constitute over 80% of the snow leopard's food intake in this region, supporting a high predator density.

The study analysed camera trap data from 12 sites, collected between 2015 and 2021, covering 360,000 km². Researchers calculated an average snow leopard density of 0.90 per 100 km², with population estimates ranging

from 755 to 1,341 individuals.

Snow leopards, a flagship species of Central and South Asia's mountains, were downgraded from 'Endangered' to 'Vulnerable' by the IUCN in 2017. However, concerns over potential biases in population estimates remain.

Read more: <https://doi.org/10.1007/s10531-024-03007-4>

Land-sparing and sharing key to tiger revival in India

India's remarkable success in tiger recovery provides a crucial case study in balancing wildlife conservation with

human coexistence. Over the past two decades, tiger occupancy in India has increased by 30%, with the species now covering approximately 138,200 km². This recovery has been driven by a combination of protected areas, habitat connectivity, and community engagement, despite the challenges of human density, poverty, and armed conflicts.

The study utilised multiseason occupancy models (MSOM) to analyse tiger distribution from 2006 to 2018. Data was collected across 20 Indian states, with surveys conducted every four years to assess tiger presence, prey availability, and habitat conditions. The research team employed line transects and occupancy modelling, incorporating factors like prey abundance, land use, socioeconomic status, and human disturbances. Approximately 44,000 personnel participated in this large-scale survey, covering 2.5 million km².

Findings revealed that tigers persist in prey-rich protected areas but have also colonised human-shared landscapes with moderate socioeconomic conditions. While land sparing (creating protected areas) has been essential for core tiger populations, land sharing (coexistence with human communities) has played a significant role in their expansion.

Read more: <https://doi.org/10.1126/science.adk4827>

A Sub-adult tiger from India

Photo: Shikhar Mohan





IUCN Green List Adds 4 New Sites in West Asia

The IUCN Green List has welcomed four new sites and three renewals, marking a strong start to 2025 for global conservation. The Green List, a global standard for effective and equitable conservation, recognises protected areas that successfully balance biodiversity protection and community benefits.

Among the newly listed sites, Saudi Arabia's Sharaan Nature Reserve and King Abdulaziz Royal Nature Reserve stand out for their role in restoring native wildlife like the Arabian oryx and Sand gazelle. Jordan's Aqaba Marine Reserve, known for its resilient coral reefs, and Sir Bu Nair Protected Area in the UAE, rich in marine biodiversity and cultural heritage, also joined the list. These sites exemplify conservation excellence in West Asia.

Additionally, France's Champ du Feu and Hochfeld Managed Biological Reserves and Lebanon's Al Shouf Cedars Nature Reserve have successfully renewed their Green List status. These areas continue to play a vital role in preserving biodiversity, sustainable land use, and cultural heritage.

As the world moves towards the goal of conserving 30% of global land and water by 2030, the IUCN Green List provides a framework for ensuring long-term, science-backed conservation. With support from international partners, the Green List is set to expand further, helping nations safeguard their natural heritage while fostering sustainable development.

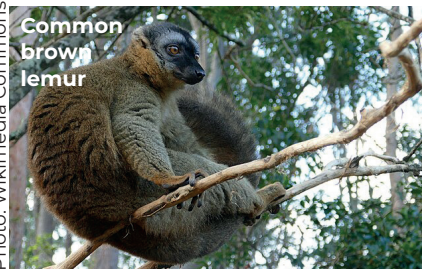
Read more: <https://iucn.org/story/202501/2025-kicks-growth-four-new-sites-added-iucn-green-list-and-three-relisted>

\$8.56 Million for Restoring Madagascar's Rich Biodiversity

Madagascar, one of the world's most biodiverse regions, has secured \$8.56 million in funding from the Global Biodiversity Framework Fund (GBFF) to launch the BioTact project. This five-year initiative aims to restore populations of threatened species, protect critical habitats, and enhance the management of 1.24 million hectares of protected areas, including 80,000 hectares of marine ecosystems.

The BioTact project—short for Transforming the Global Biodiversity Framework into Tangible Action in Madagascar—was developed by IUCN and Madagascar's Ministry of Environment and Sustainable Development (MEDD). The project

Photo: Wikimedia Commons



aligns national conservation strategies with global commitments, ensuring that biodiversity conservation translates into concrete, on-the-ground actions.

BioTact seeks to bridge these gaps by involving local communities and private sector stakeholders, including the mining industry, to create sustainable conservation models.

With \$41 million in co-financing, BioTact represents a major step towards restoring Madagascar's unique biodiversity while strengthening the resilience of local communities. As the country pushes forward with innovative conservation solutions, this project reinforces Madagascar's commitment to protecting its rich ecosystems and setting a global example in biodiversity conservation.

Read more: <https://iucn.org/press-release/202501/multimillion-dollar-gbff-project-target-conservation-madagascars-threatened>

Arabian Leopard Expands Northward in Oman

The Critically Endangered Arabian leopard (*Panthera pardus nimr*) has been recorded expanding its range northward in Dhofar region of Oman. Camera trap surveys conducted between 2014 and 2021 documented at least eight individual leopards in the Nejd region, an area where the species was previously believed to be absent. Historically, the Arabian leopard occupied a much larger range, but habitat loss, poaching, and declining prey populations have reduced its presence to just 2% of its historical distribution. With an estimated global population of only 100–120 individuals, the largest known subpopulation survives in Dhofar, making this discovery a significant milestone. Researchers recommend designating central and western Nejd as a National Nature Reserve to protect critical leopard habitats and the species they depend on, such as Nubian ibex and Arabian gazelle.

The findings highlight the importance of long-term monitoring to track leopard movements and population trends. Researchers suggest that camera trap surveys should last at least 18 weeks to improve detection rates, a crucial step for conserving elusive big cats in arid landscapes. This study not only provides hope for the Arabian leopard's survival but also underscores the urgent need for sustained conservation action to secure its future in Oman and beyond.

Read more: <https://doi.org/10.1017/S0030605324001662>

Photo: Hadi-al-Hikmani & Khalid-al-Hikmani, oryx.org



Female Arabian leopard with an adult cub

All photos courtesy IBCA



Inaugural session of the ITEC Executive Course in Kaziranga, Assam

IBCA Hosts Training Meet for Wildlife Officials from 27 Nations

The International Big Cat Alliance (IBCA), in collaboration with Kaziranga National Park and Tiger Reserve, conducted the ITEC executive course on capacity building for wildlife and conservation experts from 10-16 February 2025 in Kaziranga, located in Assam, an eastern Indian state.

Mr Chandra Mohan Patowary, Forest Minister of Assam, delivered a special address highlighting the rich biodiversity of Assam's flora and fauna. Assam has been at the forefront in conservation strategies and in protecting its diverse ecosystems.

Mr Atul Bora, Minister for Agriculture, Excise, Border Protection and Development in Assam, extended his best wishes to all participants of the ITEC executive course.

Mr Sandeep Kumar, PCCF & Head of Forest Force, Assam, also discussed Assam's conservation strategies at the meet.

The Indian Technical and Economic Cooperation (ITEC) programme of the Ministry of External Affairs, Government of India, fosters mutual cooperation among developing countries by sharing of knowledge, expertise, and best practices. The primary objectives of the ITEC courses are to offer training and capacity building in various fields, thereby contributing to the socio-economic development of

partner nations.

The course was attended by 44 officials from 27 countries like Armenia, Bangladesh, Bhutan, Cambodia, Eritrea,

Eswatini, Ethiopia, Ghana, Guatemala, Indonesia, Iran, Kazakhstan, Kenya, Kyrgyz Republic, Malawi, Malaysia, Maldives, Mauritius, Myanmar, Nicaragua, Niger, Romania, Sierra Leone, South Sudan, Sri Lanka, Tajikistan and Vietnam.

The course was first of its kind, conducted entirely in a protected area which is a World Natural Heritage Site in India. With a combination of classroom and interactive field sessions with eminent conservationists, the course covered a wide array of topics on big cat conservation challenges and efforts in India and other big cat range countries.

Kaziranga National Park and Tiger Reserve is home to the largest population of Greater One-horned Rhinoceros, making it a critical site for wildlife conservation. With its diverse ecosystems, including tigers, elephants, and countless bird species, Kaziranga is renowned for its breathtaking landscapes.



(Top and above): Glimpses of the ITEC programme sessions. Close to 44 delegates from 27 countries participated

Tiger as National Animal



The tiger holds a place of pride as the national animal of many countries. India and Bangladesh honour the Bengal tiger, while Malaysia recognises the Malayan tiger. South Korea recognises the regionally extinct Siberian tiger, while Tajikistan remembers the extinct Caspian tiger, reflecting the species historical range.



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